

**Important trees produced
at the station**

Red pine (*Pinus resinosa*)

Planted for reforestation and timber production on a wide variety of sites including light dry soils.



White spruce (*Picea glauca*)

Used for timber production, Christmas trees and wind-breaks. Planted on sites similar to white pine.



White Ash (*Fraxinus americana*)

A moderately valuable hardwood timber, this species grows best on deep, moist, fertile soils.



White pine (*Pinus strobus*)

Grows best for timber production in sandy loams, but can also be planted in moist sands and well drained clays.



Red Oak (*Quercus rubra*)

A valuable species for timber production and also planted for aesthetics; oak thrives in good soils similar to those preferred by ash.



Norway spruce (*Picea abies*)

Frequently planted in combination with **White cedar** (*Tuja occidentalis*).



Carolina poplar

(*Populus canadensis* var. *eugenei*)

A hybrid developed for its fast growing characteristics, important in wind-breaks and erosion control.



White Cedar (*Tuja occidentalis*)

For windbreaks and wildlife cover in a wide variety of soil types.



**Orono
Forest Station**



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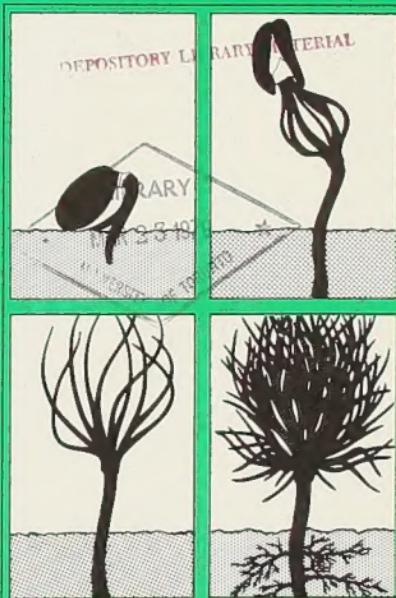
ONTARIO



Ontario
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**Orono
Forest Station**

Carbohydrates
Oxidation



Ontario

Ministry of
Natural
Resources

Hon. James A. C. Auld
Minister

Dr. J. K. Reynolds
Deputy Minister

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Orono Forest Station

The primary purpose of the Orono Forest Station is to produce young trees for planting on Crown lands, Municipal and Conservation Authority Forests and on private lands.

A glance at a topographical map of the area shows a broad ridge running eastward from the Regional Municipality of York to Prince Edward County, and this offers a clue as to why the nursery was located at Orono. Of glacial origin, much of the soil on the ridge originally grew fine pine forests. After clearing for agricultural use, the lighter soils proved unsuitable for farming, and many farms were abandoned. The founders of Ontario's reforestation program wisely chose this site because it was near the centre of the area, enjoyed good rail and road connections, and was favoured with an adequate water supply.

The development of the Forest Station began in 1922 with the purchase of 350 acres of land. After World War II, an additional thousand acres were purchased to meet the increasing demand for nursery stock. Of the total 1,350 acres, 400 acres are suited to nursery stock production; 650 acres are rough, rolling land, suitable for plantations; and 300 acres are low-lying bottom land associated with Wilmott Creek.

Nursery Operation

The current output is seven million trees per year. Most of the production is of cone-bearing species such as pine or spruce, with only seven per cent in hardwoods. Approximately 65 per cent of the trees are shipped for planting on Crown lands, in Municipal and Conservation Authority Forests, and on private lands being reforested under The Woodlands Improvement Act. The remainder is sold to private landowners who do their own planting. Just as a farmer must make careful preparations for his crops in season, so must the nursery forester make careful plans to ensure a good crop of trees from his fields.

The main section of the nursery area is divided into compartments, around which have been planted windbreaks to protect the small trees from drying winds and to prevent soil drifting. These compartments are used in rotation. After each crop of trees has been removed, the soil is cultivated for one summer. Samples of soil from each compartment are tested, and special fertilizers and organic materials (peat) are applied prior to sowing in the amounts indicated by the respective soil tests and the species to be grown.

Seedling Production

The seed of most species is sown late in the fall, usually during the first week of November, in prepared beds running the full length of the compartment. Some species, however, are best



Top: Nursery stock is measured for performance after planting.

Above: Nursery beds are irrigated on an exacting schedule.



Above: Three year old white spruce ready to be lifted and shipped.

Right: Greenhouses are used to accelerate growth for special purpose seedlings.



seeded in the spring. The seed is covered with a thin layer of sand after sowing and the completed beds mulched for protection from drying winds.

When the seed germinates in the spring, the beds are shaded with lath shades as required. The young seedlings are cared for during the growing season by supplying necessary moisture by irrigation. The beds are kept free of weeds and fertilized as needed to produce healthy vigorous seedlings.

When the seedlings are two years old, some species (for example, jack pine and Scots pine) are ready for shipping. A small percentage of trees are transplanted at a wider spacing to permit further development. However, most of the seedlings are allowed to develop one more year in the seedbeds and are then shipped as three-year-old stock. From germination until they are shipped, the seedlings are kept weeded, watered and fertilized to provide optimum growing conditions and are protected from diseases and insects.

Nursery Stock Distribution

The trees are usually shipped from the nursery in the spring. They are first loosened in the ground by a mechanical litter blade, then pulled by hand, culled and tied in bundles of 25. Some trees are packed into the shipping containers in the field, while others are taken to the packing shed where they are packed in cartons or paper bags, ready to be picked up by applicants or shipped out by transport or railway express.

The nursery staff welcome visitors to the nursery and are pleased to answer questions about their work and the trees they grow. When further information is desired, please contact:

Nursery Superintendent

Orono Forest Station

Ministry of Natural Resources, Box 119

Orono, Ontario LOB 1M0

Telephone (416) 983-9147

The Forest Station is located on the western outskirts of the community of Orono which is just off Highway 35 and 115, four miles north of Highway 401.